

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-26 are pending in this case. Claims 1-3 and 19-24 are amended by the present amendment. The changes to Claims 1-3 and 19-24 are supported in the originally-filed disclosure at least at paragraphs [0094] and [0095] of the published Specification. Thus, no new matter is added.

In the outstanding Office Action, Claims 1, 3, 10, 19, 21, 22, and 24-26 were rejected under 35 U.S.C. § 103(a) as unpatentable over Brown et al. (U.S. Pub. No. 2003/0187975 A1, herein "Brown") in view of Haraguchi et al. (U.S. Patent No. 5,425,023, herein "Haraguchi"), further in view of Schroeder, et al. (U.S. Patent No. 6,341,129, herein "Schroeder")¹; Claims 2, 4-7, 12, 20², and 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over Brown in view of Armitage (U.S. Pub. No. 2002/0026525 A1), further in view of Schroeder³; Claims 8, 9, 11, and 13-18 were rejected under 35 U.S.C. § 103(a) as unpatentable over Brown in view of Haraguchi, further in view of Schroeder, further in view of Armitage⁴; and Claims 25 and 26 appear to be rejected under 35 U.S.C. § 103(a) as unpatentable over Brown in view of Haraguchi and Border, based on the discussion at pages 9 and 10 of the outstanding Office Action.

¹ Although Border et al. (US Patent No. 7,006,480 B2, herein "Border") is not listed among the references asserted against Claims 1, 3, 10, 19, 21, 22, and 24-26, at page 2 of the outstanding Office Action, Border is discussed, at page 5 of the outstanding Office Action, with regard to the rejection.

² Claim 20 is not listed, at the first line of page 5 of the outstanding Office Action, among the claims rejected under 35 U.S.C. § 103(a) as unpatentable over Brown in view of Armitage, further in view of Border. However, this is believed to be an oversight in light of the inclusion of Claim 20 at line 5 of page 5 of the outstanding Office Action.

³ At page 5 of the outstanding Office Action, the rejection of Claims 2, 4-7, 12, and 23 is made with reference to Schroeder. However, Border is discussed with reference to Claims 4, 7, 12, 5, and 6 at page 7 of the outstanding Office Action.

⁴ While the rejection of Claims 8, 9, 11, and 13-18 is made with reference to Schreoder, Border is discussed, instead, at pages 8 and 9 of the outstanding Office Action.

Amended Claim 1 is directed to a node in a packet communication system and includes, inter alia, **“a Path MTU discovery execution determining unit configured to compare path information of the path before the path has been updated and path information of the path after the path has been updated and determine whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed.”**

The assertions in the outstanding Office Action are difficult to understand. For example, with regard to Claim 1, at page 3, the outstanding Office Action states that Brown “does not particularly refer to setting the Path MTU on the basis of the path information. Haraguchi teaches setting the Path MTU on the basis of the path information.” However, at page 4, the outstanding Office Action states that the “combined prior art references of Brown and Haraguchi do not particularly refer to a Path MTU discovery execution determining whether a discovery of a Path MTU...should be executed, based on the path information...Schroeder discloses” the features of Claim 1. Further, the outstanding Office Action also states at page 4 that it would have been obvious to modify “the combined prior art references of Brown and Haraguchi and have it include **setting the Path MTU** on the basis of the path information, as taught by Schroeder.” Emphasis added.

For the purposes of responding to the rejections in the outstanding Office Action as comprehensively as possible, Applicants will address the rejection of independent Claims 1, 3, 19, 21, 22, and 24 with regard to Brown, Haraguchi, Schroeder, and Border. Further, Applicants will address the rejection of Claims 2, 20, and 23 with regard to Brown, Armitage, Schroeder, and Border. Because Applicants assert that none of the cited references teaches or suggest Path MTU discovery execution determining as defined by the claimed invention, the issue of what combination is, in fact, asserted by the outstanding Office Action is not reached.

Brown describes reducing data flow disruption when detecting Path MTU by transmitting an old, already-transmitted data packet when doing Path MTU discovery, thereby reducing the need for re-transmission if the packet is not successfully transmitted. At paragraph [0045], Brown describes **periodic** execution of Path MTU discovery and, thus, does not teach and does not even suggest a reason to have a Path MTU discovery execution determining unit that determines “whether a discovery of Path MTU...should be executed,” as recited in Claim 1. Claim 1 of Brown recites a method including “determining whether a PMTU discover packet is to be transmitted.” However, the claim is for a “method of reducing dataflow disruption when increases in path maximum transmission unit (PMTU) **are being detected.**” Emphasis added. That is, the method step is performed **during** periodic Path MTU discovery execution, depicted at Fig. 9 of Brown, but not to determine **whether** to execute Path MTU discovery.

Additionally, amended Claim 1 further defines the Path MTU discovery execution determining unit as “configured to **compare path information** of the path before the path has been updated and path information of the path after the path has been updated **and determine whether a discovery of a Path MTU...should be executed.**” At paragraph [0041], Brown describes a remote system advertising the amount of buffer space allocated for the connection. However, at paragraph [0045], Brown clarifies that the **advertised information** of maximum segment size is **used during the periodic performance of PMTU discovery** rather than to determine “whether a discovery of a Path MTU...should be executed,” as recited by amended Claim 1. Thus, Brown does not teach or suggest Path MTU discovery execution determining as defined by amended Claim 1.

Haraguchi describes managing a table that provides information regarding the maximum transfer unit for a transfer device. The portions of Haraguchi that were cited for Path MTU setting as defined by the claimed invention are now asserted, in the outstanding

Office Action, as teaching Path MTU discovery execution determining as defined by the claimed invention. However, with regard to how the values in the table are set or modified, Haraguchi describes, at column 6, line 54, to column 7, line 9, that minimum MTU values are set during initialization of the tables rather than based on a comparison of “path information of the path before the path has been updated and path information of the path after the path has been updated,” as recited by amended Claim 1. Further, Haraguchi describes, at column 9, lines 6-53, that MTU values are changed when an operator or a program controlling the communication devices recognizes that the characteristics of the system or transfer route are changed. However, neither the operator nor the controlling program of Haraguchi teaches or suggests a Path MTU discovery execution determining unit in **a node “being a destination node” in a packet communication system** as defined by the claimed invention. Thus, Haraguchi does not teach or suggest Path MTU discovery execution determining as defined by the amended Claim 1.

Schroeder describes TCP resegmentation that allows a sending host to send a packet at its largest MTU because a receiving host will receive a packet at the receiving host’s MTU through resegmentation. The part of Schroeder that is asserted as teaching Path MTU discovery execution determining is background information about Path MTU discovery, generally, and is also discussed at page 6 in the background of the present application and states only that an ICMP DESTINATION UNREACHABLE, or Packet Too Big message, received by a sending host results in the sending host’s Path MTU discovery algorithm selecting a smaller MTU. However, this background discussion in Schroeder of Path MTU discovery does not teach or suggest Path MTU discovery execution **determining** as defined by the claimed invention, because Path MTU discovery or reselection of MTU **by the sending host based on a message regarding a dropped packet**, as in Schroeder, does not teach or suggest a **destination node** including a Path MTU discovery execution determining

unit “configured to **compare path information of the path before the path has been updated and path information of the path after the path has been updated and determine** whether a discovery of a Path MTU...should be executed,” as defined by amended Claim 1.

Border describes a communication system with a platform containing a spoofing apparatus that provides performance enhancing functions. Border handles the problem of data segments exceeding maximum segment size by including, in the TCP Spoofing Kernel within the performance enhancing platform, a capability to resize data segments to be sent to the local host, the destination node. Thus, Border, too, does not teach and does not even suggest a reason to teach a Path MTU discovery execution determining to determine “whether a discovery of Path MTU...should be executed,” as defined by amended Claim 1.

Because Brown, Haraguchi, Schroeder, and Border do not teach or suggest at least a destination node comprising, *inter alia*, “a Path MTU discovery execution determining unit,” as defined by amended Claim 1, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of Claim 1 and Claims 10 and 11, which depend therefrom, be withdrawn.

Claims 19 and 22, though differing in scope and statutory class from Claim 1, patentably define over Brown, Haraguchi, Schroeder, and Border for similar reasons as Claim 1. Thus, Applicants respectfully request that the rejection of Claims 19 and 22 under 35 U.S.C. § 103(a) be withdrawn.

Amended Claim 3 further defines a Path MTU discovery execution determining unit “configure to compare Path MTU of the path before the path has been updated and Path MTU of the path after the path has been updated which was set by the Path MTU setting unit and determine whether a discovery of a Path MTU should be executed.”

The discussion of Brown, Haraguchi, Schroeder, and Border with regard to their failure to teach or suggest a Path MTU discovery execution determining unit, as defined by

amended Claim 1, also applies to an assertion that Brown, Haraguchi, Schroeder, and Border do not teach or suggest a Path MTU discovery execution determining unit as defined by amended Claim 3. Thus, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of Claim 3 and Claims 8, 9, 13, 14, 17, and 18, which depend therefrom, be withdrawn.

Claims 21 and 24, though differing in scope and statutory class from Claim 3, also patentably define over Brown, Haraguchi, Schroeder, and Border for similar reasons as Claim 3. Thus, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of Claims 21 and 24 be withdrawn.

Amended Claim 2 further defines a Path MTU discovery execution determining unit “configure to compare the number of entry points of multiple tunnels on the path before the path has been updated and the number of entry points of multiple tunnels on the path after the path has been updated and determine whether a discovery of a Path MTU...should be executed.”

The discussion of Brown, Haraguchi, Schroeder, and Border with regard to their failure to teach or suggest a Path MTU discovery execution determining unit, as defined by amended Claim 1, also applies to an assertion that Brown, Haraguchi, Schroeder, and Border do not teach or suggest a Path MTU discovery execution determining unit as defined by amended Claim 2 even though only Brown and Schroeder are asserted against Claim 2.

Armitage is additionally asserted, with Brown and Schroeder, as teaching or suggesting all the features of Claim 2.

Armitage describes tracking a host as it moves within a network to unicast packets destined to the host. Armitage discusses MTU only at paragraph [0049] and states only that “it may be useful to employ a scheme for dynamically re-setting the effective MTU on the multicast-tunnel virtual subnet.” However, Armitage does not teach or suggest a **destination**

node including a Path MTU discovery execution **determining unit** “configured to compare the number of entry points of multiple tunnels on the path before the path has been updated and the number of entry points of multiple tunnels on the path after the path has been updated and determine whether a discovery of a Path MTU...should be executed,” as defined by amended Claim 2.

Further, Claims 20 and 23, though differing in scope and statutory class from Claim 2, patentably define over Brown, Haraguchi, Schroeder, Border, and Armitage for similar reasons as amended Claim 2, though only Brown, Armitage, and Schroeder are asserted against Claims 20 and 23. Thus, Applicants respectfully request that the rejection of Claims 2, 20, and 23 under 35 U.S.C. § 103(a) be withdrawn.

Claims 4-7, 12, 15, 16, 25, and 26 depend from Claim 2. As discussed above, Claim 2 patentably defines over Brown, Haraguchi, Schroeder, Border, and Armitage, though only Brown, Armitage, and Schroeder are asserted against Claim 2. Thus, Claims 4-7, 12, 15, 16, 25, and 26, which depend from Claim 2, patentably define over Brown, Haraguchi, Schroeder, Border, and Armitage for at least the same reasons as Claim 2. Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) of Claims 4-7, 12, 15, 16, 25, and 26 be withdrawn.

Consequently, the outstanding rejections are traversed and the pending claims are believed to be in condition for formal allowance. An early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Attorney of Record
Registration No. 40,073

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

Usha Munukutla-Parker
Registration No. 61,939

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